REMARKS

Claims 1- 14 are currently pending in the application. By this amendment, claims 1, 2 and 5 are amended, and claims 8 - 14 are added for the Examiner's consideration. Claim 5 is amended for informalities. Support for the other amendments and added claims 8 - 14 is provided in at least Figures 4 and 5, and at pages 21 and 26 of the present specification. No new matter is added. Reconsideration of the rejected claims in view of the above amendments and the following remarks is respectfully requested.

35 U.S.C. § 102(e) Rejection

The Office Action rejects claims 1 - 6 under 35 U.S.C. §102(e) over U.S. Patent No. 6,438,579 to Hosken ("Hosken"). This rejection is respectfully traversed.

The invention is directed to a system and method for item recommendations, including recommending items to an advisee based on other recommendations of other users of the system. The system relates to determining neighboring users who are users with a large degree of similarity to the advisee regarding preferences for items such as books, audio recordings, CDs and so forth, and generating a recommendation to the advise based on recommendations by the neighboring users. By using the system and method, only a subset of groups are reviewed to calculate a similarity, based on a selected item list.

In particular, a recommendation of an item to an advisee is generated, including receiving a recommendation request comprising a selected item list from an advisee for a recommendation by a recommendation system. In response to the recommendation request, a plurality of similarity factors is computed based on items from the selected item list that indicate similarity between the advisee and a plurality of users of the recommendation system who have previously provided ratings of items from the selected item list. The embodiment further includes selecting from the plurality of users of the recommendation system neighboring users to the advisee according to similarity factors, and generating a recommendation of at least one item of the

selected item list according to the previously provided ratings of the at least one item by the neighboring users.

A person using the system to generate a recommendation on an item is referred to as an advisee. To generate a recommendation, the advisee provides a selected item list and a particular request. The selected item list includes items which are similar to the requested recommendation item. When this information is entered into the system, the system generates a subset of all users in the system based upon the selected item list. In other words, those users in the system having rated items that are on the advisee's selected item list are grouped into a subset for further searching. After a subset of users based on selected items is created, the user profile of each of the members of the subset is compared to the user profile of the advisee. A similarity is calculated between each user in the subset and the advisee. Next, a certain number of users from the subset are selected based on a certain degree of similarity between themselves and the advisee. After certain members of the subset of all users is selected based on similarity, the rating generated by each one of those selected users for the requested item is determined, and a final recommendation is then provided to the advisee.

As can be seen, embodiments of the invention do not calculate a similarity between the advisee and all users in the system. Rather, a similarity is calculated for only those users who have entered a recommendation for items contained in the advisee's selected item list. As such, the selected item list ensures that only those users having made recommendations on the selected items as chosen by the advisee are included in the similarity calculation. Thus, users who have not made recommendations on items in the selected item list are not included in the similarity calculation and the computation is faster, and the final recommendations are based on only those users showing an interest in items relevant to the requested item making the final recommendation more relevant.

In contrast, Hosken does not use a selected item list to compute similarities. Instead, Hosken is related to the collection, processing, and presentation of alternate information source

content to a user and, in particular, the selective and automated generation of source content alternatives based on content relationships and user behavioral patterns.

The users of the Hosken system create users profiles based on user behavior while using a web site. The Hosken system also stores implicit ratings for items based on net use behavior by the user, and explicit ratings for items based on input by the user. Upon request of an advisee, the system accesses the advisee's profile and a corresponding content interest data base. The Hosken system then uses the relationships between the content items to determine a subset of items to be referred to the user. The system may also correlate a similarity between users' ratings of certain items and other users' ratings. Based on these correlations, a subset of users is selected that is then used to provide recommendations on items to the user. However, Hosken does not use a selected item list to compute similarities.

Even more particularly, Hosken includes a collaborative recommendation system which accesses a cluster table. The cluster table contains data sets predetermined that represent clusters of users. The system looks at the first user in each cluster and performs a correlation algorithm to determine the similarity between that first user in the cluster and an advisee. Using this method, the system is able to examine each cluster and estimate a cluster most likely to have a high similarity to the advisee. After determining the cluster with the most similar first user, the Hosken system selects that cluster and forms a similarity computation for each user of the cluster. The Hosken system then makes a recommendation of an item based on the recommendation of items of each of the users in the selected cluster meeting a minimum similarity requirement. However, the Hosken system must check all clusters.

Thus, Hosken relies on predetermined cluster tables where each cluster table contains a finite amount of data that represents preselected clusters of users. Since Hosken works with predefined groups, the group that is selected by Hosken for the final similarity calculation has no assurance of having members having made recommendations on items similar to the requested item as in the invention. In contrast, the invention uses a selected item list to make the first determination of users to be used in the similarity calculation. Thus, the inventive system

ignores all users, no matter how similar, who have not rated items which the advisee has already indicated as relevant to the request.,

Claims 2-6 are allowable at least for the reasons discussed above with respect to independent Claim 1, from which they depend, as well as for their added features. Applicants respectfully request that the rejection of Claims 1-6 be withdrawn.

35 U.S.C. § 102(a) Rejection

The Examiner rejected Claim 7 under 35 U.S.C. §103(a) over Hosken. This rejection is respectfully traversed.

Claim 7 sets forth a user profile for a recommendation system where each record includes a user identifier, an item identifier and a rating value. The system also includes each record being linked in a first and a second dimension, the first dimension linking records with a same user identifier in a sequence according to the item identifier and the second dimension linking periods with a same item identifier in a sequence according to the user identifier.

Thus, an embodiment includes organizing the user data into a matrix based on item identifier and user identifier. The data set has multiple dimensions which are linked to one another. Additionally, one dimension is linked to records with a same user identifier. Also, the dimension linked to a same user identifier is sequenced according to an item identifier. Also includes in the embodiment is a second dimension which links records with a same identifier, and sequences the data according to user identifier.

The Examiner asserts that Hosken shows at Table 1 in column 7, line 60 through column 8, line 36, a user profile for a recommendation system as set forth in Claim 7. However, the referenced table of Hosken fails to show data organized in a matrix and instead shows multiple data tables being organized within work tables. For example, the tables contain clusters containing categorization details of user groups preferably on the basis of the strength of interest relative to some distinguishing categorizing attribute. Thus, the data structure of Hosken is based on a series of one dimensional tables without linked sequences of data, rather than a matrix

of linked dimensions. As such, the data tables of Hosken are clearly distinguished from the matrices of the invention having linked records and linked dimensions.

Because the Hosken system relies on multiple data tables within work tables, Hosken fails to disclose a user profile for a recommendation system wherein each record is linked in a first and second dimension, the first dimension linking records with the same user identifier in a sequence according to the item identifier, and the second dimension linking records with the same identifier in a sequence according the user identifier, as set forth in Claim 7. Accordingly, Claim 7 is in allowable condition, and the rejection should be withdrawn.

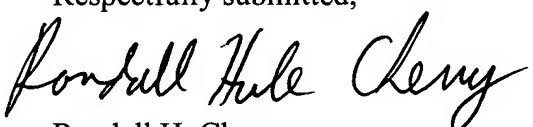
New Claims

By this amendment, Claims 8 - 14 are added. New independent Claim 8 is directed to a computer method which includes, in part, selecting a first set of users from a group of users based on the selected item list, and selecting neighboring users from the first set of users based on similarities between the advisee and each member of the first set of users. Claims 9-14 depend from claim 8 and add further distinguishing features thereto. Prompt examination and allowance in due course are respectfully requested.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants submit that all of the claims are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue. The Examiner is invited to contact the undersigned at the telephone number listed below, if needed. Applicants hereby make a written conditional petition for extension of time, if required. Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 09-0457.

Respectfully submitted,



Randall H. Cherry
Registration No. 51,556

Andrew M. Calderon
Registration No. 38,093

McGuireWoods, LLP
Suite 1800
1750 Tysons Blvd.
McLean, VA 22102
(703) 712-5426

\\#395953